AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Cancelled)

2. (Currently Amended) The method of claim [[1]] 3 wherein the compressible composition remains competent when compressed.

3. (Currently Amended) A method of sealing an expandable pipe or pipe string in a well bore comprising:

placing a ~~The method of claim 1 wherein the compressible composition is~~ foamed compressible hydraulic cement composition in an annulus between the well bore and the expandable pipe or pipe string; and

expanding the expandable pipe or pipe string whereby the compressible composition is compressed.

4. (Cancelled)

5. (Currently Amended) The method of claim [[1]] 3 wherein the compressible hydraulic cement composition comprises a hydraulic cement, a rubber latex, a rubber latex stabilizer, a gas, and a mixture of foaming and foam stabilizing surfactants.

6. (Currently Amended) The method of claim [[1]] 3 wherein the compressible hydraulic cement composition comprises at least one from the following group: a calcium aluminate cement, a Portland cement, and a Portland blast furnace cement.

7. (Currently Amended) The method of claim [[1]] 3 wherein the compressible hydraulic cement composition comprises calcium aluminate cement.

8. (Previously Presented) The method of claim 5 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, and an acrylonitrilibutadiene emulsion.

9. (Original) The method of claim 5 wherein the rubber latex is a styrene/butadiene copolymer latex emulsion containing water in an amount in the range of from about 40% to about 70% by weight of the latex.

10. (Original) The method of claim 5 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

11. (Original) The method of claim 5 wherein the rubber latex stabilizer comprises a surfactant having the formula $R-Ph-O(OCH_2CH_2)_mOH$ wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula $R_1(R_2O)_nSO_3X$ wherein R_1 is an alkyl group having from about 5 to about 20 carbon atoms, R_2 is the group $-CH_2-CH_2-$, n is an integer from about 10 to about 40 and X is a cation.

12. (Original) The method of claim 5 wherein the rubber latex stabilizer is a surfactant having the formula $H(CH_2)_{12-15}(CH_2CH_2O)_{15}SO_3Na$.

13. (Original) The method of claim 5 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

14. (Previously Presented) The method of claim 5 wherein the gas comprises at least one from the following group: air and nitrogen.

15. (Original) The method of claim 5 wherein the gas is nitrogen.

16. (Original) The method of claim 5 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

17. (Original) The method of claim 5 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

18. (Original) The method of claim 5 wherein the mixture of foaming and foam stabilizing surfactants is present in the composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

19. (Original) The method of claim 5 wherein the composition further comprises a viscosity increasing agent.

20. (Previously Presented) The method of claim 19 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, and guar gum.

21. (Original) The method of claim 19 wherein the viscosity increasing agent is bentonite.

22. (Original) The method of claim 19 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

23. (Original) The method of claim 5 wherein the composition further comprises a density adjusting weighting material.

24. (Previously Presented) The method of claim 23 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, and manganese oxide.

25. (Original) The method of claim 23 wherein the density adjusting weighting material is particulate iron oxide.

26. (Original) The method of claim 23 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

27. (Original) The method of claim 5 wherein the composition further comprises a cement set retarder.

28. (Previously Presented) The method of claim 27 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, and a sugar.

29. (Original) The method of claim 27 wherein the set retarder is citric acid.

30. (Original) The method of claim 27 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

31. (Original) A method of sealing an expandable pipe or pipe string in a well bore comprising:

placing a compressible composition in an annulus between the well bore and the expandable pipe or pipe string;

allowing the composition to harden; and

expanding the expandable pipe or pipe string whereby the hardened composition is compressed.

32. (Original) The method of claim 31 wherein the compressible composition remains competent when compressed.

33. (Original) The method of claim 31 wherein the compressible composition is foamed.

34. (Original) The method of claim 31 wherein the compressible composition is a compressible hydraulic cement composition.

35. (Original) The method of claim 34 wherein the compressible hydraulic cement composition comprises a hydraulic cement, a rubber latex, a rubber latex stabilizer, a gas, and a mixture of foaming and foam stabilizing surfactants.

36. (Previously Presented) The method of claim 34 wherein the compressible hydraulic cement composition comprises at least one from the following group: a calcium aluminate cement, a Portland cement, and a Portland blast furnace cement.

37. (Original) The method of claim 34 wherein the compressible hydraulic cement composition comprises calcium aluminate cement.

38. (Previously Presented) The method of claim 35 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, and an acrylonitrilibutadiene emulsion.

39. (Original) The method of claim 35 wherein the rubber latex is a styrene/butadiene copolymer latex emulsion containing water in an amount in the range of from about 40% to about 70% by weight of latex.

40. (Original) The method of claim 35 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

41. (Original) The method of claim 35 wherein the rubber latex stabilizer comprises a surfactant having the formula $R-Ph-O(OCH_2CH_2)_mOH$ wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula $R_1(R_2O)_nSO_3X$ wherein R_1 is an alkyl group having from

about 5 to about 20 carbon atoms, R_2 is the group $-CH_2-CH_2-$, n is an integer from about 10 to about 40 and X is a cation.

42. (Original) The method of claim 35 wherein the rubber latex stabilizer is a surfactant having the formula $H(CH_2)_{12-15}(CH_2CH_2O)_{15}SO_3Na$.

43. (Original) The method of claim 35 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

44. (Previously Presented) The method of claim 35 wherein the gas comprises at least one from the following group: air and nitrogen.

45. (Original) The method of claim 35 wherein the gas is nitrogen.

46. (Original) The method of claim 35 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

47. (Original) The method of claim 35 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

48. (Original) The method of claim 35 wherein the mixture of foaming and foam stabilizing surfactants is present in the composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

49. (Original) The method of claim 35 wherein the composition further comprises a viscosity increasing agent.

50. (Previously Presented) The method of claim 49 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, and guar gum.

51. (Original) The method of claim 49 wherein the viscosity increasing agent is bentonite.

52. (Original) The method of claim 49 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

53. The method of claim 35 wherein the composition further comprises a density adjusting weighting material.

54. (Previously Presented) The method of claim 53 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, and manganese oxide.

55. (Original) The method of claim 53 wherein the density adjusting weighting material is particulate iron oxide.

56. (Original) The method of claim 53 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

57. (Original) The method of claim 35 wherein the composition further comprises a cement set retarder.

58. (Previously Presented) The method of claim 57 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, and a sugar.

59. (Original) The method of claim 57 wherein the set retarder is citric acid.

60. (Original) The method of claim 57 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

61. (Original) A method of sealing an expandable pipe or pipe string in a well bore comprising:

placing a compressible hydraulic cement composition which remains competent when compressed in an annulus between the well bore and the expandable pipe or pipe string;

allowing the composition to harden; and

expanding the expandable pipe or pipe string whereby the hardened composition is compressed.

62. (Previously Presented) The method of claim 61 wherein the compressible hydraulic cement composition comprises at least one from the following group: a calcium aluminate cement, a Portland cement, and a Portland blast furnace cement.

63. (Original) The method of claim 61 wherein the compressible hydraulic cement composition comprises calcium aluminate cement.

64. (Original) The method of claim 61 wherein the compressible hydraulic cement composition is foamed.

65. (Original) The method of claim 61 wherein the compressible hydraulic cement composition comprises a hydraulic cement, a rubber latex, a rubber latex stabilizer, a gas, and a mixture of foaming and foam stabilizing surfactants.

66. (Previously Presented) The method of claim 65 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, and an acrylonitrilibutadiene emulsion.

67. (Original) The method of claim 65 wherein the rubber latex is a styrene/butadiene copolymer latex emulsion containing water in an amount in the range of from about 40% to about 70% by weight of the latex.

68. (Original) The method of claim 65 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

69. (Original) The method of claim 65 wherein the rubber latex stabilizer comprises a surfactant having the formula $R-Ph-O(OCH_2CH_2)_mOH$ wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula $R_1(R_2O)_nSO_3X$ wherein R_1 is an alkyl group having from about 5 to about 20 carbon atoms, R_2 is the group $-CH_2-CH_2-$, n is an integer from about 10 to about 40 and X is a cation.

70. (Original) The method of claim 65 wherein the rubber latex stabilizer is a surfactant having the formula $H(CH_2)_{12-15}(CH_2CH_2O)_{15}SO_3Na$.

71. (Original) The method of claim 65 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

72. (Previously Presented) The method of claim 65 wherein the gas comprises at least one from the following group: air and nitrogen.

73. (Original) The method of claim 65 wherein the gas is nitrogen.

74. (Original) The method of claim 65 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

75. (Original) The method of claim 65 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

76. (Original) The method of claim 65 wherein the mixture of foaming and foam stabilizing surfactants is present in the composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

77. (Original) The method of claim 65 wherein the composition further comprises a viscosity increasing agent.

78. (Previously Presented) The method of claim 77 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, and guar gum.

79. (Original) The method of claim 77 wherein the viscosity increasing agent is bentonite.

80. (Original) The method of claim 77 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

81. (Original) The method of claim 65 wherein the composition further comprises a density adjusting weighting material.

82. (Previously Presented) The method of claim 81 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, and manganese oxide.

83. (Original) The method of claim 81 wherein the density adjusting weighting material is particulate iron oxide.

84. (Original) The method of claim 81 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

85. (Original) The method of claim 65 wherein the composition further comprises a cement set retarder.

86. (Previously Presented) The method of claim 85 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, and a sugar.

87. (Original) The method of claim 85 wherein the set retarder is citric acid.

88. (Original) The method of claim 85 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

89. (Original) A foamable and compressible composition for sealing an expandable pipe or pipe string in a well bore comprising hydraulic cement, rubber latex, and a latex stabilizer.

90. (Original) The composition of claim 89 wherein the composition is foamed.

91. (Original) The composition of claim 89 wherein the composition comprises a gas.

92. (Previously Presented) The composition of claim 91 wherein the gas comprises at least one from the following group: air and nitrogen.

93. (Original) The composition of claim 91 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

94. (Previously Presented) The composition of claim 89 wherein the hydraulic cement comprises at least one from the following group: a calcium aluminate cement, a Portland cement, and a Portland blast furnace cement.

95. (Original) The composition of claim 89 wherein the composition comprises a mixture of foaming and foam stabilizing surfactants.

96. (Original) The composition of claim 95 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

97. (Original) The composition of claim 95 wherein the mixture of foaming and foam stabilizing surfactants is present in the foamed composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

98. (Previously Presented) The composition of claim 89 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, and an acrylonitrilibutadiene.

99. (Original) The composition of claim 89 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

100. (Original) The composition of claim 89 wherein the rubber latex stabilizer comprises a surfactant having the formula $R-Ph-O(OCH_2CH_2)_mOH$ wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula $R_1(R_2O)_nSO_3X$ wherein R_1 is an alkyl group having from about 5 to about 20 carbon atoms, R_2 is the group $-CH_2-CH_2-$, n is an integer from about 10 to about 40 and X is a cation.

101. (Original) The composition of claim 89 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

102. (Original) The composition of claim 89 wherein the composition further comprises a viscosity increasing agent.

103. (Previously Presented) The composition of claim 102 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, and guar gum.

104. (Original) The composition of claim 102 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

105. (Original) The composition of claim 89 wherein the composition further comprises a density adjusting weighting material.

106. (Previously Presented) The composition of claim 105 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, and manganese oxide.

107. (Original) The composition of claim 105 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

108. (Original) The composition of claim 89 wherein the composition further comprises a cement set retarder.

109. (Previously Presented) The composition of claim 108 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, and a sugar.

110. (Original) The composition of claim 108 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.